LOWER BOISE RIVER

Water Quality and Biological trends

Published report online at http://id.water.usgs.gov/public/reports.html

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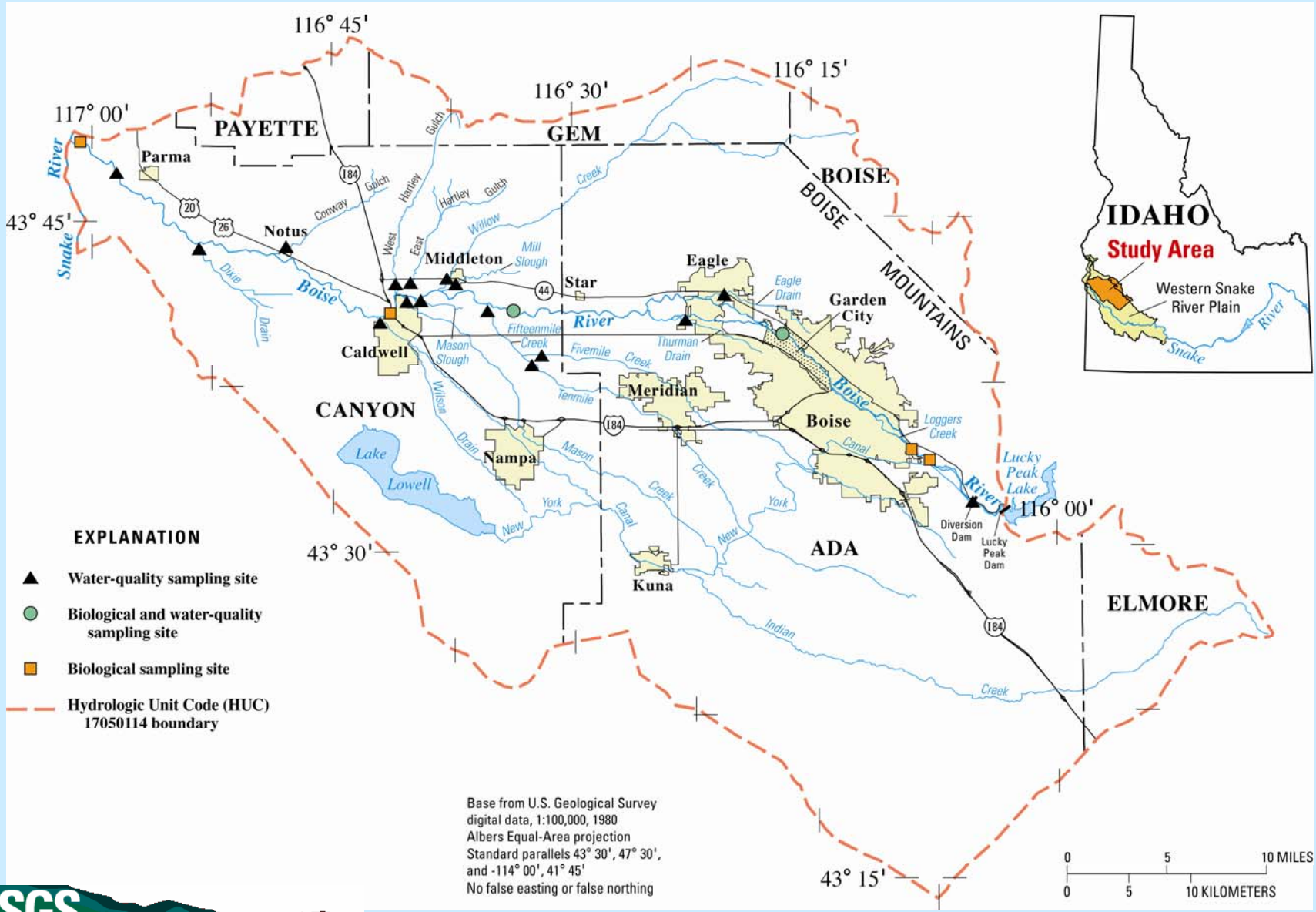
Sampling Locations



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Water Quality and Biological Sampling Sites

Below Eckert Road

Above Glenwood Bridge

Near Middleton

At Caldwell

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Near the mouth at Fort Boise Wildlife Management Area

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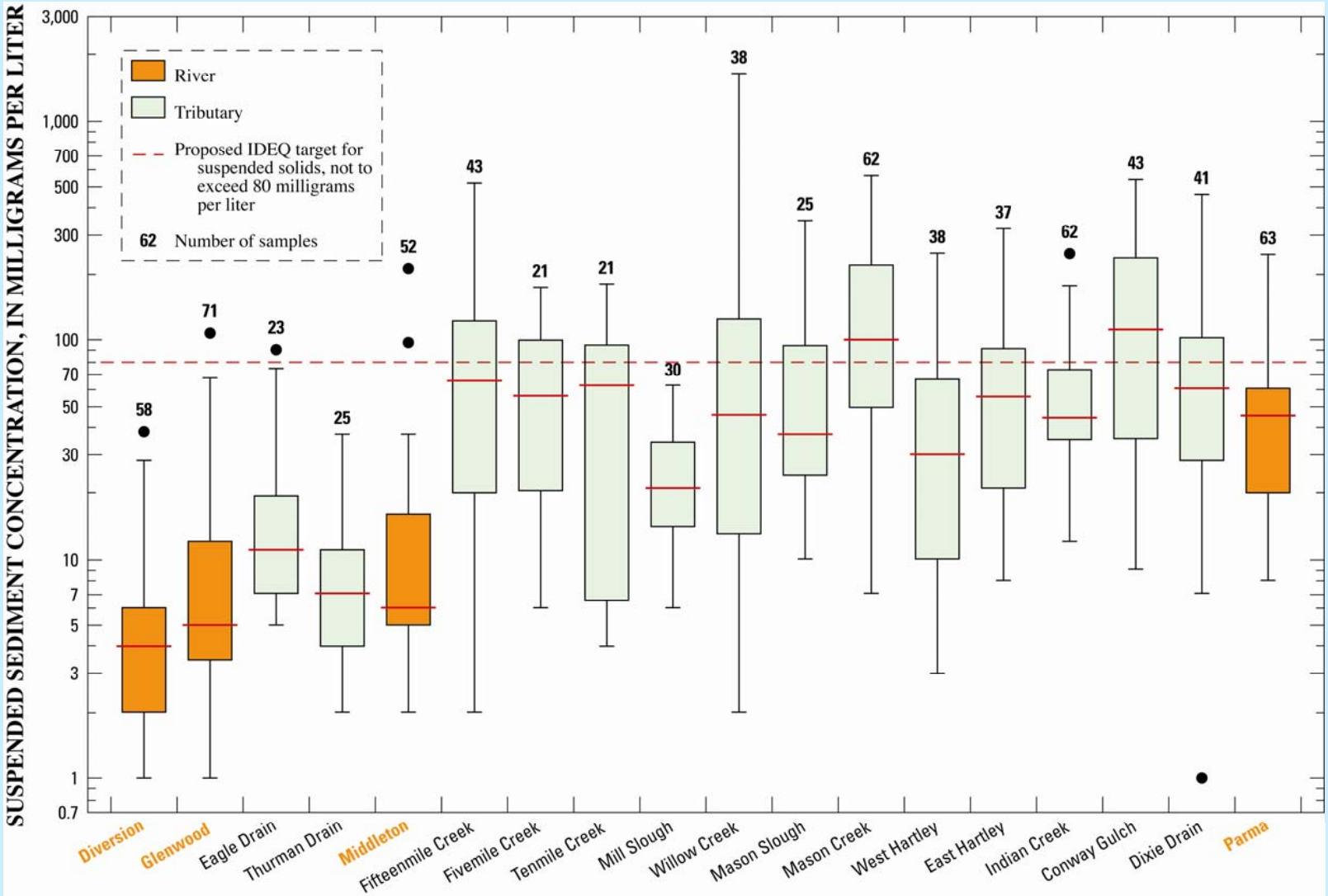
Sampling Objectives

- Assess status of water quality and biological integrity
- Identify water quality and biological trends
- Report findings
- Ongoing monitoring of water quality and biological integrity as TMDL and NPDES requirements are met

Results of water quality monitoring
Sediment concentrations



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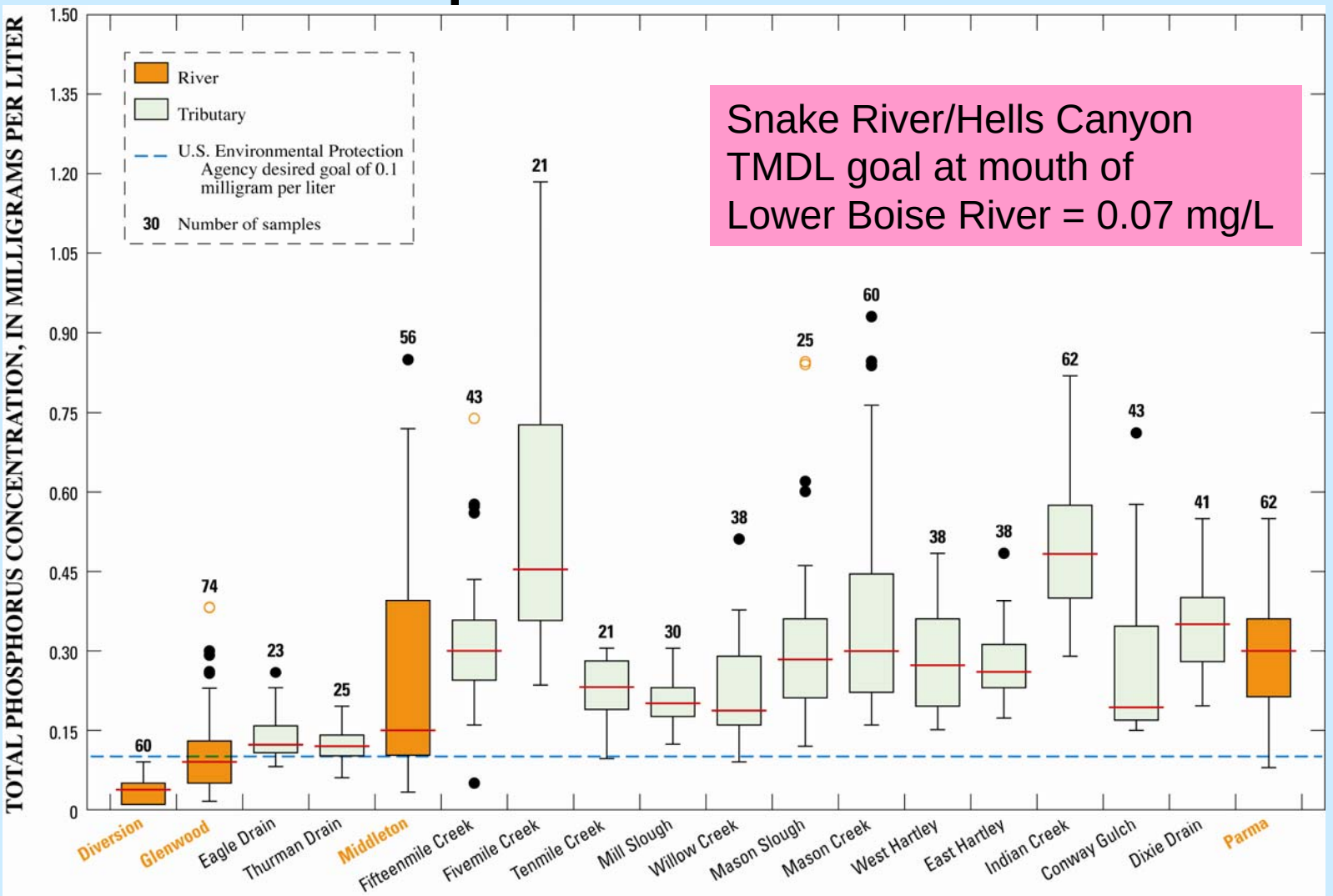
Results of water quality monitoring
Total Phosphorus concentrations



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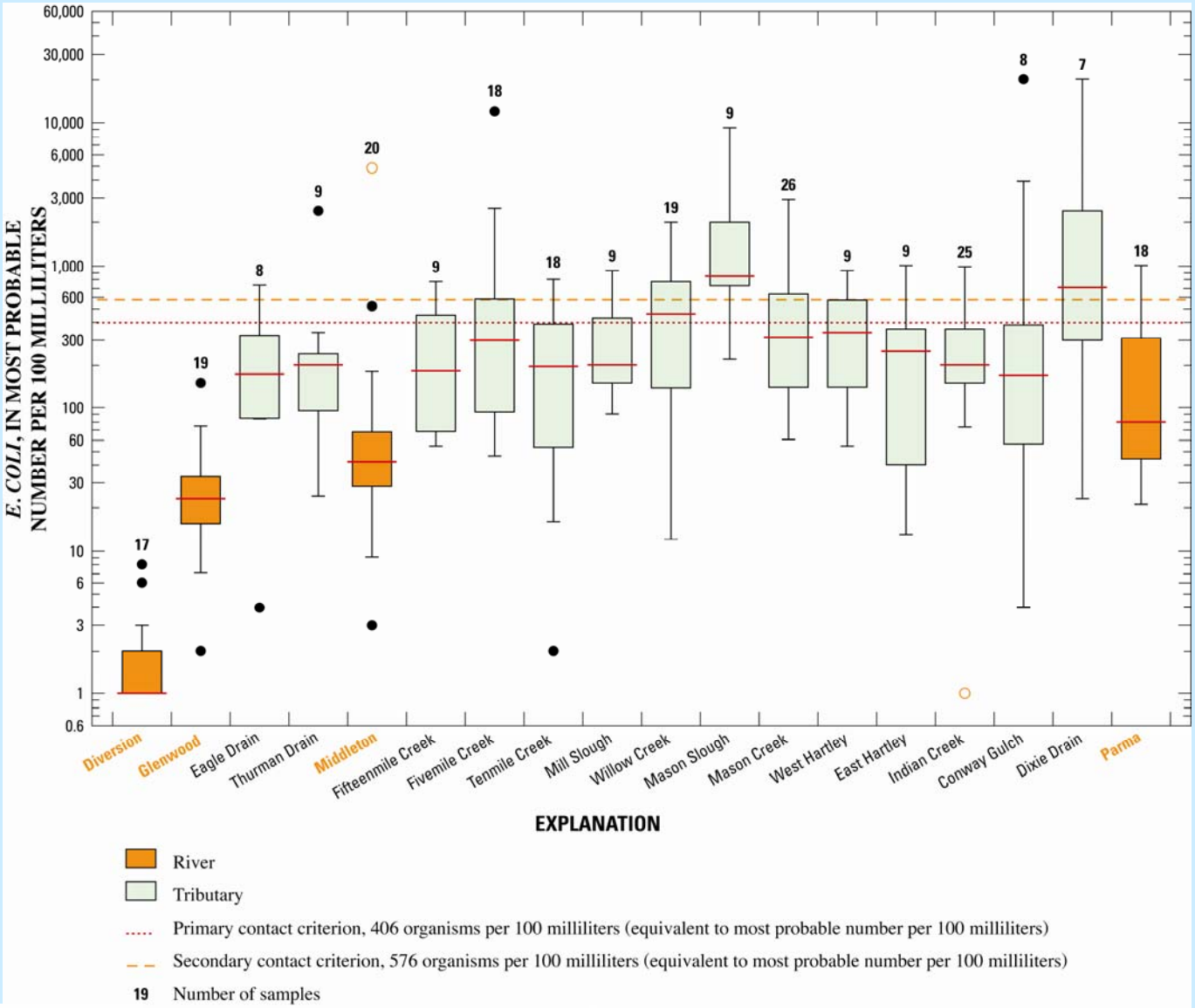
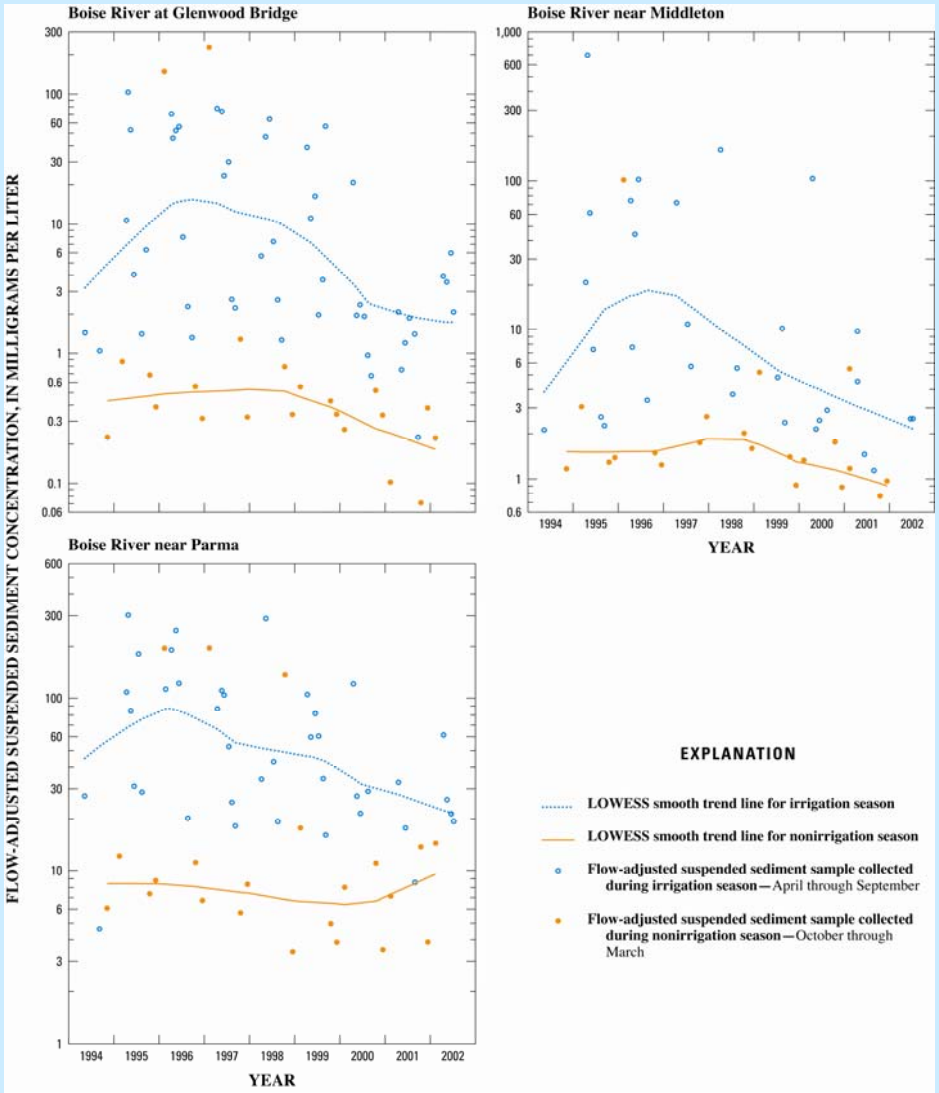
Results of water quality monitoring
E. Coli

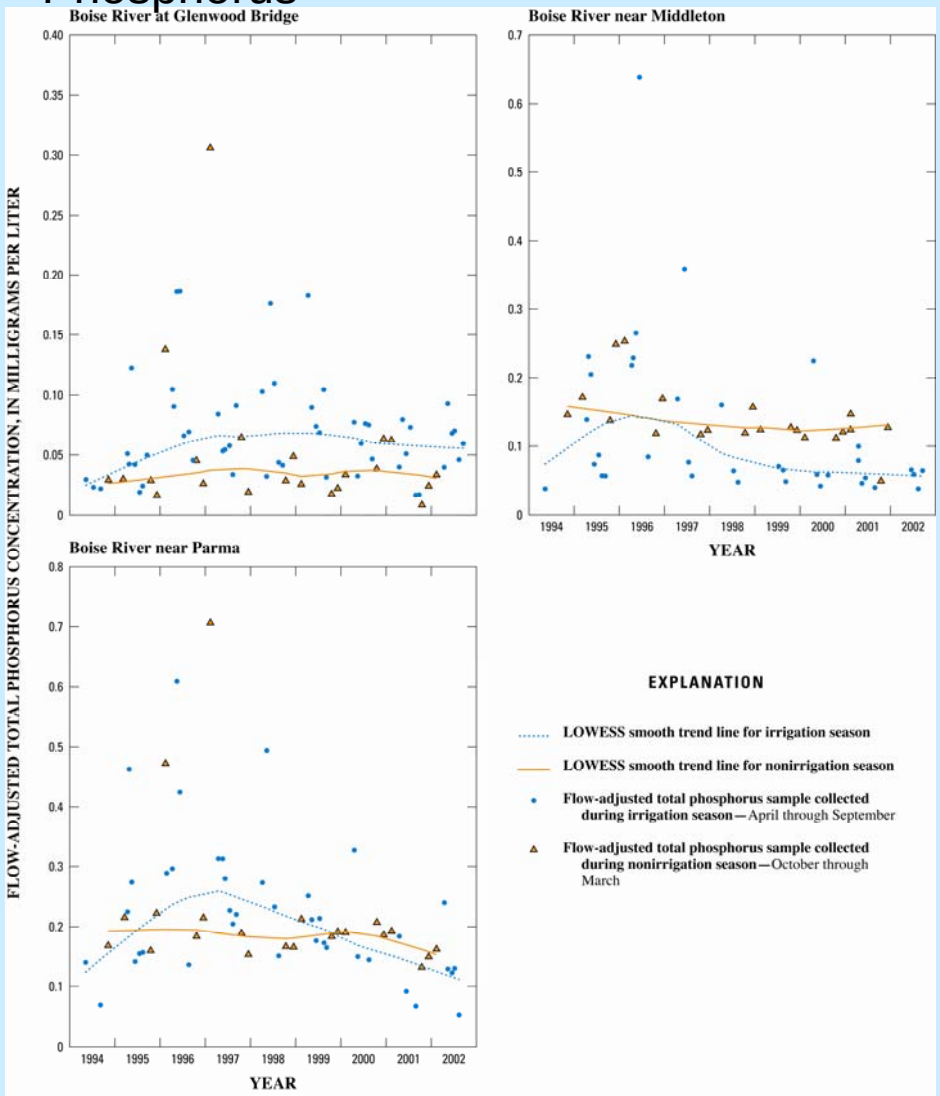


Water Quality trends
(flow adjusted concentrations)

Sediment



Phosphorus



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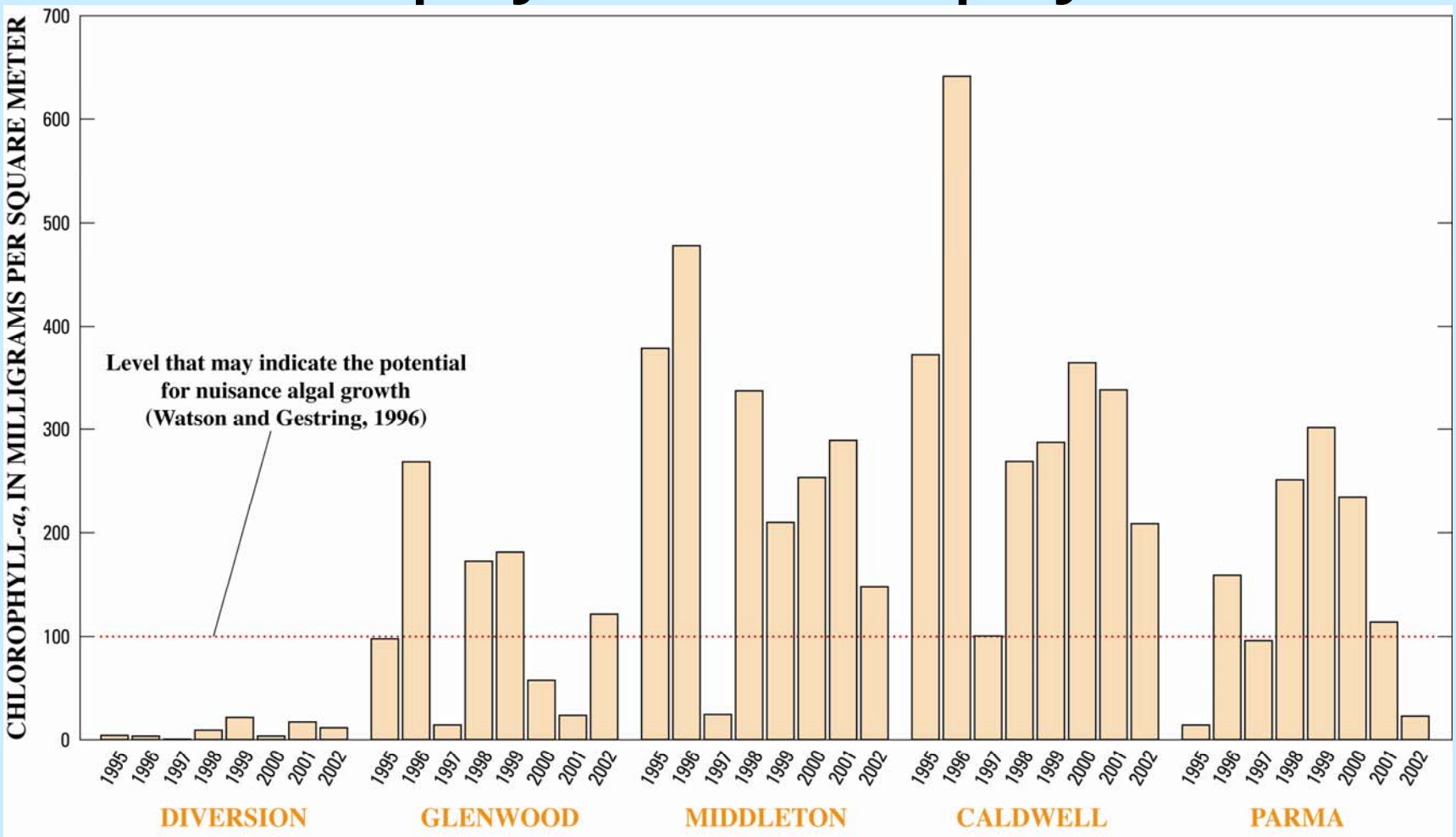
Biological Trends
Periphyton Chorophyll-*a*



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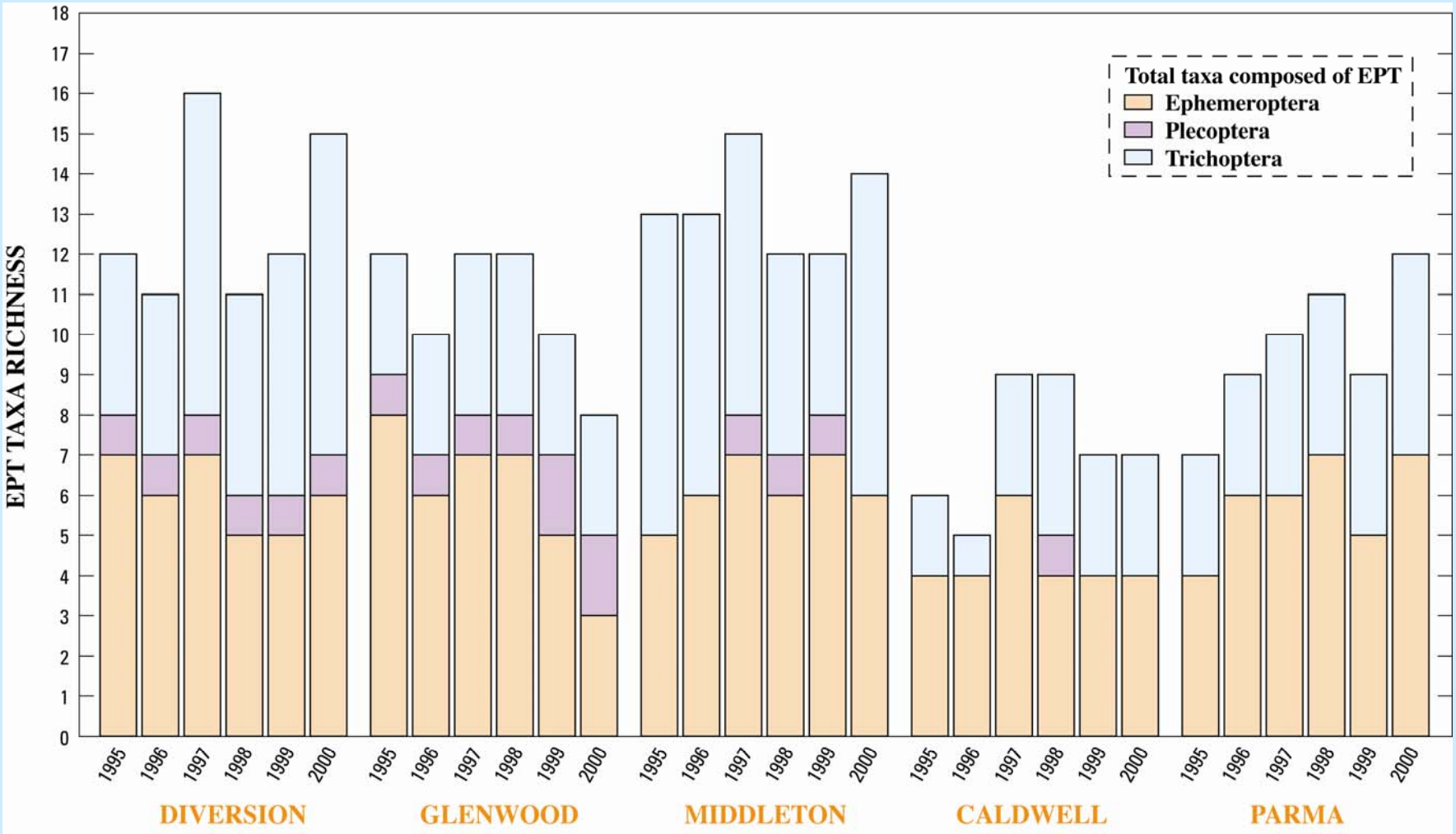
Biological Trends
Macroinvertebrates



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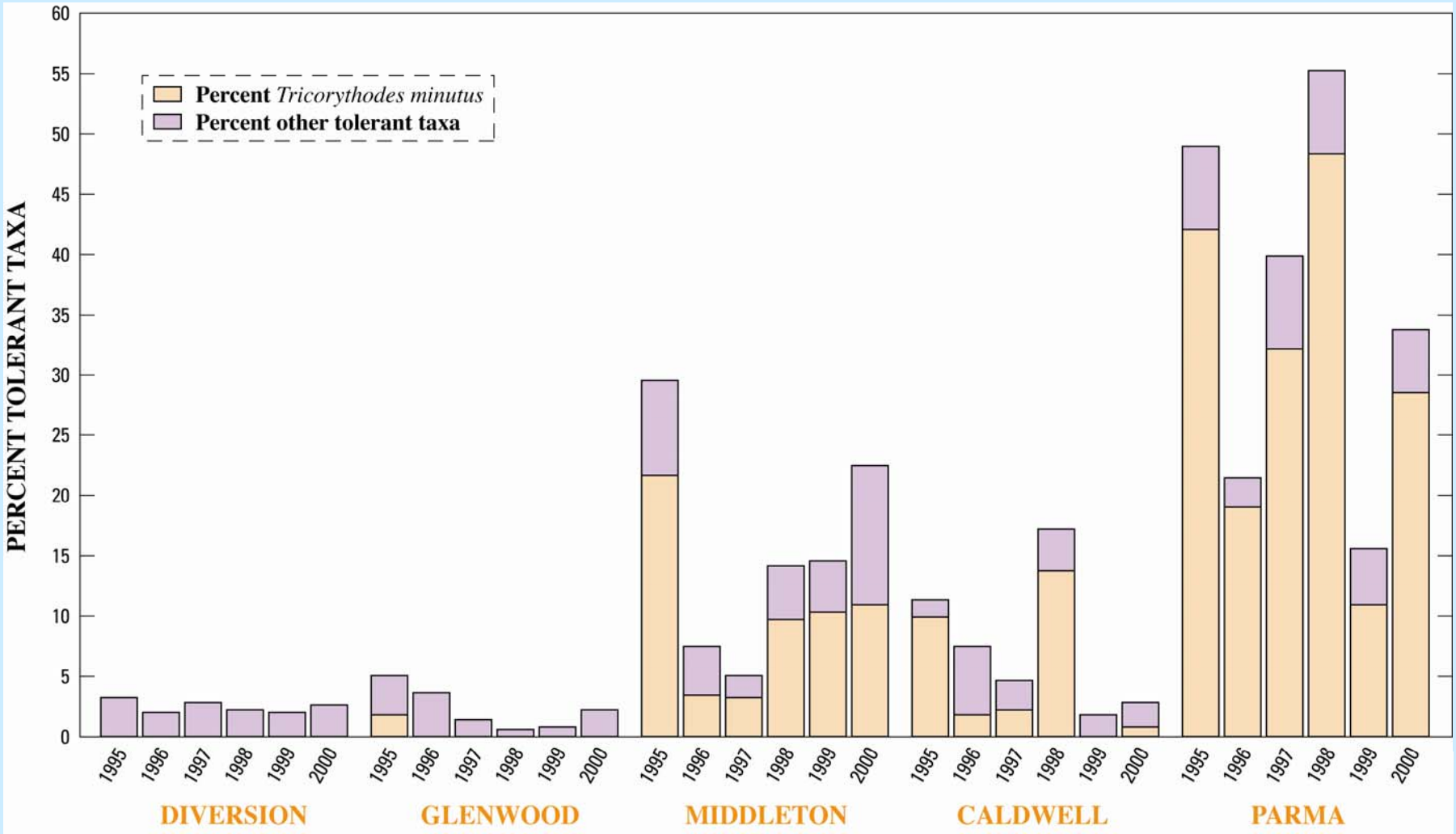
Biological Trends
Tolerant Macroinvertebrates



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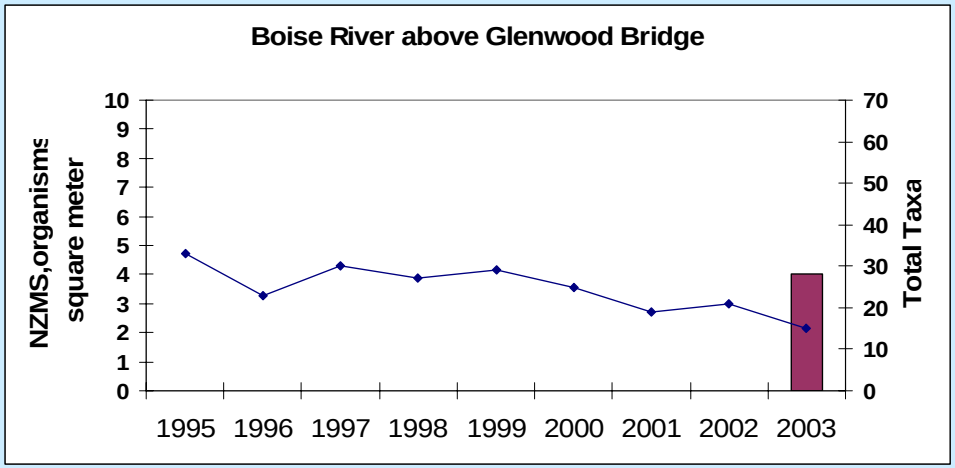
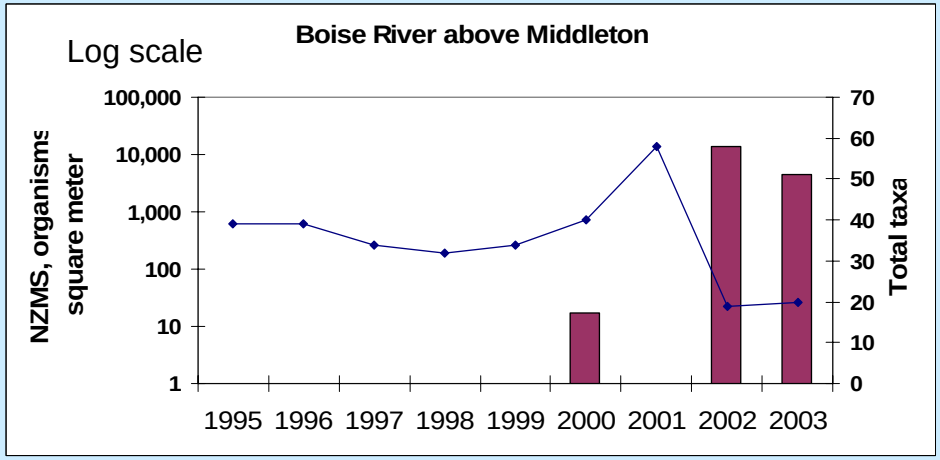
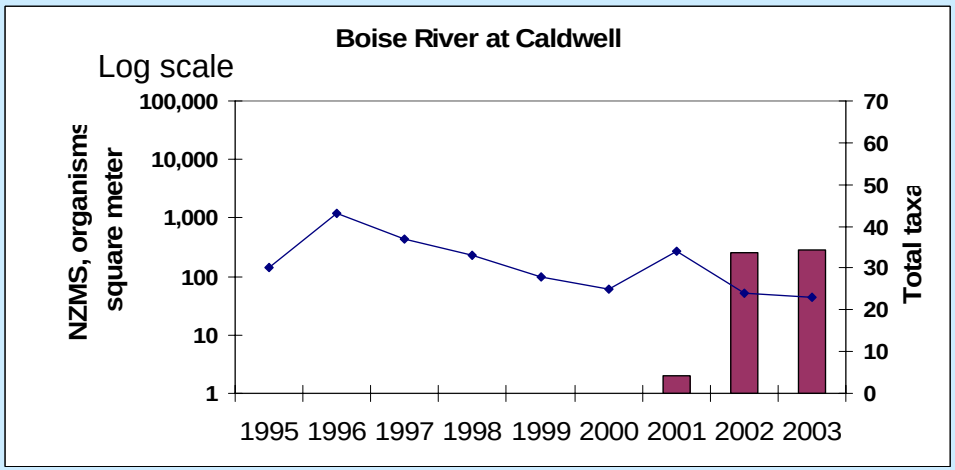
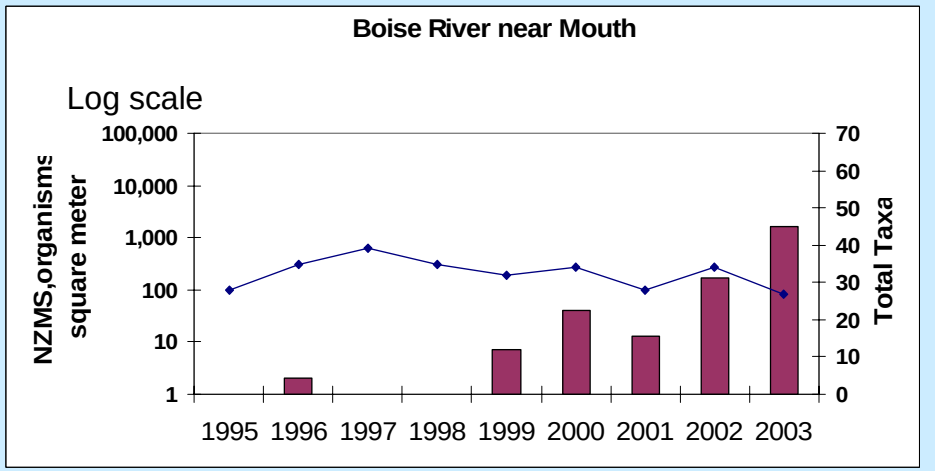
Biological Trends Invasive Species
New Zealand Mudsnail









Includes data through 2003

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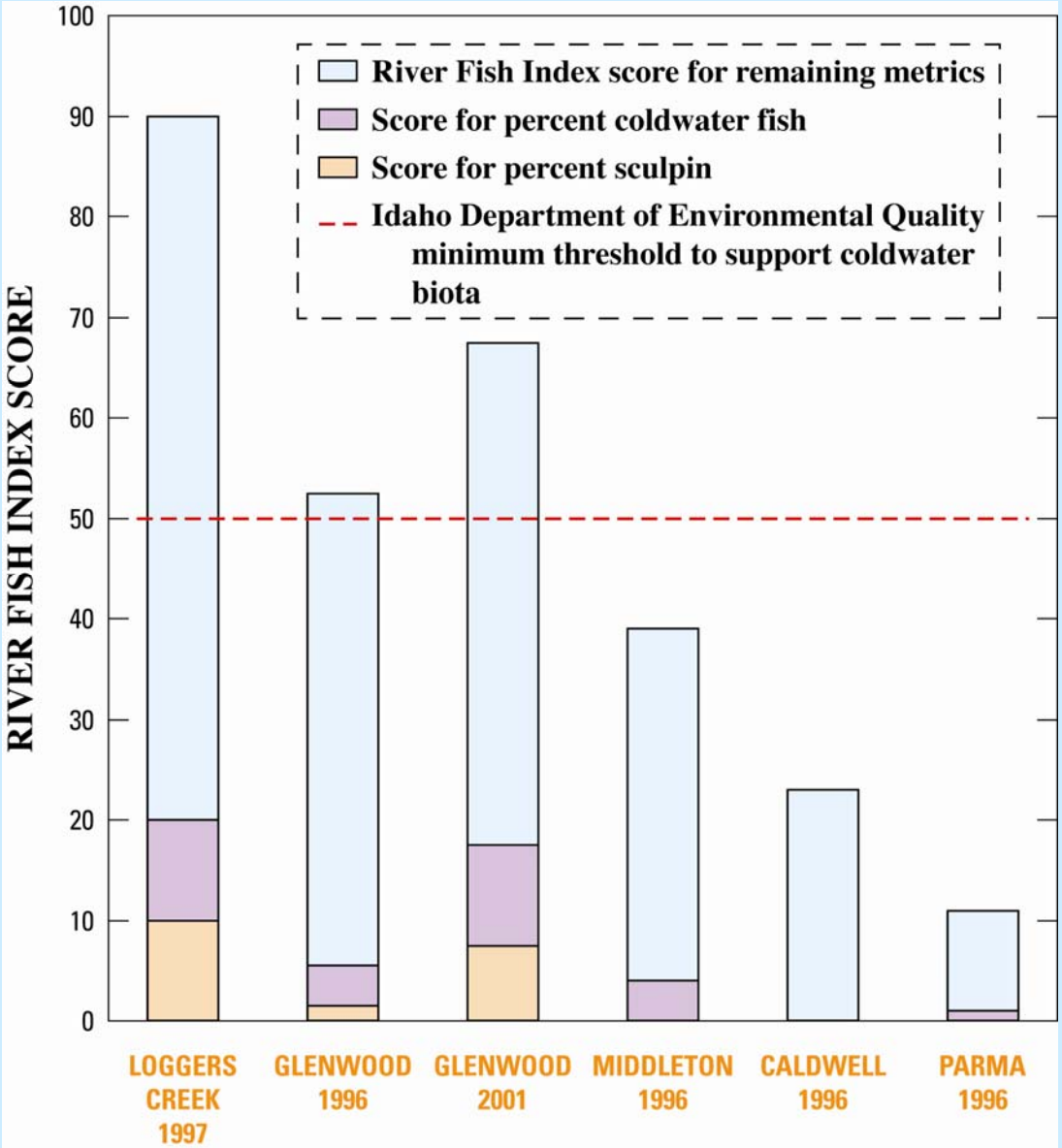
Biological Trends Fish



River Fish Index (Mebane and others, 2003)

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Changes to monitoring for 2005

- Develop a step trend monitoring plan
- Develop techniques for continuous monitoring of sediment and total phosphorus
- Sample tributaries for nutrients, sediment, and bacteria for TMDL needs
- Additional durational sampling for *E. Coli*

Acoustic Doppler Current Meter

Measuring the reflection of an acoustic signal from particulate matter in the water.

To be used as a surrogate for suspended sediment

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Continuous Automatic Sampler

Sampling devise to be used to obtain durational concentrations of total phosphorus

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Summary

- Sediment, nutrients and *E. Coli* bacteria increase in a downstream direction
- Biological integrity decreases and invasive species increase in a downstream direction in response to water quality and loss of habitat

Summary cont.

- TMDL goals and implementation plans are being prepared to insure preservation of beneficial uses – recreation, fishery, and water uses
- Continued monitoring will help to determine if water quality and biological integrity goals are being met